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Mountaintops to Moon Rocks, All in a Day's Work

Interview With Harrison H. "Jack" Schmitt, Apollo 17 Astronaut

SPACE NEWS PHOTO BY TOM KIMMELL

Harrison H. "Jack" Schmitt

It is not unusual for professional geologists to spend time in remote or exotic locations, but Harrison Schmitt's experience takes the cake. On Dec. 11, 1972, Schmitt became the last of a dozen men to set foot on the moon, planting his boots in the lunar dust shortly after colleague and Apollo 17 mission commander Eugene Cernan.

The landing site was a veritable geologist's paradise -- Taurus-Littrow, a spectacular valley on the edge of the moon's Sea of Serenity. "I've been very fortunate in the settings that I've worked in as a geologist. Norway, Alaska and the moon…that's hard to beat," Schmitt said.

A graduate of the California Institute of Technology, Schmitt earned a doctorate in geology from Harvard University in 1964. He was with the U.S. Geological Survey's Astrogeology Center in Flagstaff, Ariz., before being chosen in June 1965 as part of NASA's first group of scientist-astronauts, and subsequently completed a 53-week flight training course at Williams Air Force Base, Ariz.

In his dual capacity as scientist and astronaut, Schmitt provided Apollo flight crews with detailed instruction in lunar navigation, geology and feature recognition. He was the lunar module pilot on Apollo 17, a mission in which he logged 301 hours and 51 minutes in space -- 22 hours and 4 minutes of which were spent outside the vehicle on the lunar surface.

Now living in Albuquerque, N.M., Schmitt is an aerospace consultant, writer and lecturer, as well as an adjunct professor of engineering at the University of Wisconsin-Madison. He spoke recently with *SPACE.com* staff writer Leonard David about NASA's new mandate for lunar and Mars exploration.

SPACE.com: How would you assess NASA's progress so far in laying the groundwork to implement U.S. President George W. Bush's vision for space exploration?

Schmitt: We've got to wait and see with this new organizational structure in place at NASA. In order to successfully implement the President's initiative, it requires a level of effort, intensity and imagination comparable to Apollo. The more the White House supports them the better … but I really think the ball is in NASA's court and we're going to see how well they perform.

How do you feel about the repeated calls for NASA to work more closely with the private sector?

Historically, it has not been NASA's bag to try to work cooperatively with the private sector. In my mind, in the long run, NASA should be turned back into a National Advisory Committee for Aeronautics (NACA) type of organization, with which the private sector can work on certain critical technology development areas. Then they go off and compete outside of NASA to build commercially viable systems, not only launch systems, but also spacecraft systems. Working hand in hand with the private sector as NACA did in aeronautics, I think you would see a lot more progress … more realistic development of large entrepreneurial efforts.

Any concerns about the aging NASA work force?

It's a problem NASA has. They've got to make the agency younger. They've got to get that imagination and stamina back into all aspects of the return to the moon initiative in order to be successful.

Why do you suppose there are so many nations readying probes for the moon?

Earth orbit is an accessible part of the human environment right now. Anybody with a reasonably capable booster can get into Earth orbit … and that booster can allow them to put things around the moon.

Is there any value to hurling robotic probes to the moon in this day and age?

We're talking about things that have been done now for 40 years, flying these small automated lunar probes. They have become sort of a hot item in international applied science. Hopefully, they'll be some interesting science coming from these probes. We're really replaying, in a modern context, what went on back in the 1960s. There's better technology and the ability to put together lighter-weight payloads, but conceptually we're doing about the same thing.

You've long advocated extraction of lunar resources, such as Helium-3 to power fusion reactors. Can the new wave of lunar probes now being planned gather information useful for future moon mining?

I wish all the groups well and hope that they do good science and remote sensing at the moon. That data will be added to the database when we finally start to do our detailed mine planning … I just hope some of these probes will do that and save me the cost of doing it later.

Does it bother you to witness what some might argue is a replay of the Apollo program?

No … that's history. It doesn't pain me. I think my view of history is that it goes in fits and starts. You can always lament that we do it that way … but that's, unfortunately I guess, the way it goes.

It has been a long time since the Apollo expeditions to the moon. What today do you still hold as the fondest image of your moon-walking experience?

I think it's the first time I had a chance to move away from Challenger, our lunar module. I made a 360-degree camera pan to document the landing area. I was able to see this magnificent deep mountain valley … with mountains over 7,000 feet [2,100 meters] high on both sides, and a blacker than black sky with a brilliant sun. From a visual point of view, probably the most spectacular sight I've ever seen. Any descriptions of being there will never be adequate compared with actually being there yourself. So that's one reason why I hope that we can ultimately get these big reliable boosters going again and actually have to-and-from moon trips for more and more people to have that experience.